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| 10/080,223      | 02/21/2002  | James Steven Luke    | GB920000107US1      | 9751             |

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| EXAMINER |
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LEROUX, ETIENNE PIERRE

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| ART UNIT | PAPER NUMBER |
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2161

DATE MAILED: 07/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

10/080,223

Applicant(s)

LUKE, JAMES STEVEN

Examiner

Etienne P LeRoux

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

***Claim Status:***

Claims 1-14 are pending. Claims 1-14 are rejected as detailed below.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 6,226,628 issued to Forbes (hereafter Forbes) in view of US Pat No 6,493,709 issued to Aiken (hereafter Aiken).

Claims 1, 10 and 14:

**Forbes** discloses analyzing the contents of the set of files to identify components of the file contents which have duplicates within different files within the set and deleting duplicate components from the information repository while retaining at least one copy of each component *[compression by pattern matching, col 6, lines 25-35]*

**Forbes** discloses generating index data *[algorithm records length value and displacement or distance value per col 1, lines 30-37, displacement indexes, col 5, lines 43-48, Fig 7, step 206, col 7, lines 1-5]* for the retained copies which reflects the respective logical

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positions within the information repository corresponding to the positions of the retained copies and their deleted duplicates

**Forbes** discloses the elements of claim 1 as noted above but fails to disclose generating index data for remainder components which correspond to the remainder portions of a file after separation of duplicated components which remainder component index data reflects the logical positions of the remainder components within the information repository. **Aiken** discloses generating index data [*Aiken, Figs 2 and 3, Fig 1a, step 106, col 5, line 36 – col 6, line 31*] for remainder components which correspond to the remainder portions of a file after separation of duplicated components which remainder component index data reflects the logical positions of the remainder components within the information repository. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Forbes** to include generating index data for remainder components which correspond to the remainder portions of a file after separation of duplicated components which remainder component index data reflects the logical positions of the remainder components within the information repository as taught by **Aiken** for the purpose of accounting for all data in the file, i.e., matched elements and unmatched elements. The skilled artisan would have been motivated to modify the invention of **Forbes** per the above for the purpose of providing a compressed file that includes data which has been compressed (i.e., matched), and data which has not been compressed, i.e., unmatched [*Forbes, col 1, lines 25-37*].

The combination of **Forbes** and **Aiken** discloses the elements of claim 1 as noted above and furthermore, **Forbes** discloses storing the generated index data [*col 5, lines 1-12*]

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Claim 2:

The combination of Forbes and Aiken discloses the elements of claim 1 as noted above and furthermore, Forbes discloses wherein the analysis of file contents comprises the steps of: separating file contents into a set of information components comprising sub-sections of a file's contents, in accordance with predefined separation criteria [particular string length, col 5, lines 32-43] and analyzing the contents of said information components to identify duplicates [col 6, lines 30-35]

Claim 3:

The combination of Forbes and Aiken discloses the elements of claims 1 and 2 as noted above and furthermore, Forbes discloses wherein the step of separating a file's contents into information components is initiated in response to a step of saving the file [datafile 20 in resource 20, Fig 1] and the steps of analyzing the contents to identify duplicates and then deleting duplicates are performed by a background process [col 4, lines 20-40] independently of user-controlled operations

Claim 4:

The combination of Forbes and Aiken discloses the elements of claims 1 and 2 as noted above and furthermore, Forbes discloses wherein said step of separating file contents comprises identifying a file type [data files 20, Fig 1], selecting predefined separation criteria [col 7, lines 15-20] for the identified file type, and separating file contents in accordance with the selected separation criteria

Claim 5:

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The combination of Forbes and Aiken discloses the elements of claims 1 and 2 as noted above and furthermore, Forbes discloses the step of identifying information components corresponding to sub-sections of an identified component of a file's contents, which sub-sections have duplicates within different files within the set [col 3, lines 30-40] and performing in relation to said sub-section components said steps of deleting duplicates [col 6, lines 33-36] and generating and storing index data for retained single copies of duplicated sub-section components and generating and storing separate index data for remainder sub-section components

Claim 6:

The combination of Forbes and Aiken discloses the elements of claims 1 and 2 as noted above and furthermore, Forbes discloses wherein said steps of deleting duplicates and generating separate index data is performed subject to a defined minimum component size [col 5, lines 62-65]

Claim 7:

The combination of Forbes and Aiken discloses the elements of claims 1 and 2 as noted above and furthermore, Forbes discloses wherein the generated index data comprises: a set of file descriptions which each include an ordered list of identifiers of components corresponding to the contents of the respective file and information defining a path within a directory structure corresponding to the logical location of the file within the directory structure; and a set of unique component identifiers to be stored in association with respective components [lookup table has an entry for each possible data element value, col 5, lines 15-18]

Claim 9:

The combination of Forbes and Aiken discloses the elements of claims 1 and 2 as noted above and furthermore, Forbes discloses wherein the index data additionally comprises an indication of the locations within the information repository of members of said set of unique component identifiers [lookup table has an entry for each possible data element value, col 5, lines 15-18]

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Forbes and Aiken and further in view of US Pat No. 6,535,873 issued to Fagan et al (hereafter Fagan).

Claim 8:

**The combination of Forbes and Aiken** discloses the elements of claims 1 and 7 as noted above but does not disclose wherein the index data is implemented using markup tags, with each unique component identifier comprising a unique tag pair identifying and delimiting the respective component within the information repository and said ordered list of component identifiers within each file description comprising a list of markup tags. **Fagan** discloses wherein the index data is implemented using markup tags, with each unique component identifier comprising a unique tag pair identifying and delimiting the respective component within the information repository and said ordered list of component identifiers within each file description comprising a list of markup tags [Fig 4, col 5, line 45 – col 6, line 5]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of **Forbes and Aiken** to include wherein the index data is implemented using markup tags, with each unique component identifier comprising a unique tag pair identifying and

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delimiting the respective component within the information repository and said ordered list of component identifiers within each file description comprising a list of markup tags as taught by **Fagan** for the purpose of providing a means for the domain expert to choose a concept related to a tagged sentence. The skilled artisan would have been motivated to improve the invention of **Forbes and Aiken** per the above such that queries can be matched to sentences in a database which is being searched [col 5, line 45 – col 6, line 5].

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Forbes and Aiken and further in view of US Pat No. 5,414,850 issued to Whiting (hereafter Whiting).

Claim 11:

The combination of Forbes and Aiken discloses the elements of claim 10 as noted above but fails to disclose wherein the controller component for generating index data is adapted to generate a set of file descriptions which each include an ordered list of identifiers of information components corresponding to the contents of the respective file and information defining a path within a directory structure corresponding to the logical location of the file within the directory structure. Whiting as admitted prior art discloses wherein the controller component for generating index data is adapted to generate a set of file descriptions which each include an ordered list of identifiers of information components corresponding to the contents of the respective file and information defining a path within a directory structure corresponding to the logical location of the file within the directory structure [Whiting prior art, col 1, lines 15-25]. It



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would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Forbes and Aiken to include wherein the controller component for generating index data is adapted to generate a set of file descriptions which each include an ordered list of identifiers of information components corresponding to the contents of the respective file and information defining a path within a directory structure corresponding to the logical location of the file within the directory structure as taught by Whiting for the purpose of enabling users to copy, delete, move modify and search for files located on a disk drive [Whiting, col 1, lines 15-30]

Furthermore, the combination of Forbes, Aiken and Whiting discloses a set of unique component identifiers [Aiken, Figs 2 and 3, Fig 1a, step106, col 5, line 36 –col 6, line 31] to be stored in association with respective components; wherein the apparatus further comprises a component for analyzing the index data [Forbes, algorithm records length value and displacement or distance value per col 1, lines 30-37, displacement indexes, col 5, lines 43-48, Fig 7, step 206, col 7, lines 1-5] for all components of the set of files to identify and generate a representation of a directory structure [Forbes, Fig 1, 18].

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Forbes and Aiken and further in view of applicant's admitted prior art.

Claim 12:

The combination of Forbes and Aiken discloses the elements of claim 10 as noted above but fails to disclose a publish/subscribe engine connected for communication between

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application programs and said controller components for analyzing contents, deleting duplicates and generating indexes, wherein the publish/subscribe engine enables the application programs to register as publishers and as subscribers for information and is adapted to compare information components created by a first application program with other application programs subscriptions, and then to notify identified subscriber applications when a created information component matches an application program's subscriptions. Applicant as admitted prior art discloses a publish/subscribe engine connected for communication between application programs and said controller components for analyzing contents, deleting duplicates and generating indexes, wherein the publish/subscribe engine enables the application programs to register as publishers and as subscribers for information and is adapted to compare information components created by a first application program with other application programs subscriptions, and then to notify identified subscriber applications when a created information component matches an application program's subscriptions [paragraph 43]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Forbes and Aiken to include a publish/subscribe engine connected for communication between application programs and said controller components for analyzing contents, deleting duplicates and generating indexes, wherein the publish/subscribe engine enables the application programs to register as publishers and as subscribers for information and is adapted to compare information components created by a first application program with other application programs subscriptions, and then to notify identified subscriber applications when a created information component matches an application program's subscriptions as taught by applicant as admitted

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prior art for the purpose of informing users of changes which have occurred in data in which they are interested.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Forbes and Aiken and further in view of US Pat No 5,812,999 issued to Tateno (hereafter Tateno).

Claim 13:

The combination of Forbes and Aiken discloses the elements of claim 10 as noted above but fails to disclose one or more search agents for performing search and retrieval operations from the information repository in response to requests from one or more application programs. Tateno discloses one or more search agents for performing search and retrieval operations from the information repository in response to requests from one or more application programs [col 7, lines 24-35]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Forbes and Aiken to include one or more search agents for performing search and retrieval operations from the information repository in response to requests from one or more application programs as taught by Tateno for the purpose of locating and retrieving a compressed block of data [col 7, lines 25-35].

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne LeRoux whose telephone number is (571) 272-4022.

The examiner can normally be reached on Monday – Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (571) 272-4023.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Patent related correspondence can be forwarded via the following FAX number (703) 872-9306

Etienne LeRoux

~~3/7/2005~~

7/15/2005

  
MOHAMMAD ALI  
PRIMARY EXAMINER